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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/798,433

03/12/2004

Soichi Homma

04329.3269

6546

22852

7590

04/30/2008

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EXAMINER

SANDVIK, BENJAMIN P

ART UNIT

PAPER NUMBER

2826

MAIL DATE

DELIVERY MODE

04/30/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<p align="center">Advisory Action Before the Filing of an Appeal Brief</p>	<p>Application No. 10/798,433</p>	<p>Applicant(s) HOMMA, SOICHI</p>	
	<p>Examiner Ben P. Sandvik</p>	<p>Art Unit 2826</p>	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 14 April 2008 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
- b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
- (a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
- (b) ☐ They raise the issue of new matter (see NOTE below);
- (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
- (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☐ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
- The status of the claim(s) is (or will be) as follows:
- Claim(s) allowed: _____.
- Claim(s) objected to: _____.
- Claim(s) rejected: _____.
- Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:
See Continuation Sheet.
12. ☐ Note the attached Information *Disclosure Statement*(s). (PTO/SB/08) Paper No(s). _____
13. ☐ Other: _____.

/Evan Pert/
Primary Examiner, Art Unit 2826

Continuation of 11. does NOT place the application in condition for allowance because: the applicant's arguments are not persuasive. The applicant argues in regard to claim 1 that Capote teaches a passivation film not a low dielectric constant insulating film. However, it is reasonable to interpret the passivation layer of Capote as the low dielectric constant insulating film because the terms can be used interchangeably to indicate a dielectric layer. Moreover, the applicant's specification discloses the dielectric constant of benzocyclobutene as lower than 3.5. Lin teaches several layers of passivation; in other words, multiple dielectric layers. The combination of Capote and Lin teaches a structure of two dielectric layers formed on a chip, with the first layer having a dielectric constant of 3.5 or less. In regard to the applicant's arguments toward the Nagarajan reference, since the substrate 108 is utilized to electrically connect the chip to the second level package it be reasonably assumed that the top and bottom surfaces of the laminated substrate are electrically connected.

In regard to claim 3, the applicant's specification discloses on page 24 that BCB has suitable adhesion strength of 15 J/m or less.

In regard to claim 8, it is noted that the Mistry reference is relied upon to disclose a passivation layer (in other words a dielectric) that coats a part of a connecting electrode, which is absent from the Capote reference.

In regard to claim 21, the claim requires a coefficient of 20 MPa or more as the resin is changing from liquid to solid. Since Capote teaches a resin with a post-cure coefficient of 0.1-4 GPa it can be assumed that at some point during the cure process, as the coefficient approaches 0.1-4 GPa, the resin has a coefficient of greater than 20 MPa. In regard to the applicant's argument that the "claimed elasticity value of 20 MPa is well outside the range disclosed by Capote" it is noted that the claim recites "20 MPa or more".

In regard to claim 23, the applicant argues that "Grill appears to require the use of air gaps in dielectrics". This is incorrect since Figs. 3D or 3E are disclosed as being alternate embodiments to the airgap structure of Fig. 1P. Regarding the relevance of the Grill reference, any semiconductor chip structure having conductor wirings separated by dielectrics will be affected by signal propagation delays whether or not it is identified as an issue.

To clarify the "product by process" portion of the rejection of claims 1, 21, and 23, it is noted that limitation "wherein the resin molding is formed of a resin having a flux function, the resin is changing from liquid to solid when the bump electrodes are in a molten state, and a coefficient of elasticity of the resin is 20 MPa or more in a state where the resin is changing from liquid to solid when the bump electrodes are in the molten state" is directed to the process by which device is fabricated, and thus does not impart any structural limitations to the claim.